Questions and Answers on reducing methane emissions in the energy sector

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1. Why do we need to regulate methane emissions from the energy sector?

Methane is a powerful greenhouse gas, second only to carbon dioxide in its overall contribution to climate change. It is responsible for about a third of current climate warming. In addition, methane is a significant contributor to the formation of tropospheric ozone, a potent air pollutant that causes serious health problems.

In the EU, the energy sector is estimated to account for around a fifth of anthropogenic (human-made) methane emissions, but if emissions from imported fossil energy would be included this figure would be much higher. The most cost-effective methane emission reductions can be achieved in the energy sector. Furthermore, specific methane abatement measures in the sector, such as an obligation to detect and repair leaks from gas infrastructure and ban routine venting and flaring from the coal, gas and oil sectors, could deliver a large amount of additional reductions.

2. Which parts of the energy sector are included in this proposal?

This proposal covers direct methane emissions from the oil, fossil gas and coal sectors and from biomethane, once it is injected in the gas network.

More specifically, it covers:

- oil and fossil gas upstream exploration and production, fossil gas gathering and processing, including inactive oil and fossil gas wells;
- gas transmission, distribution, underground storage and liquid gas (LNG) terminals operating with fossil and/or renewable (bio-or synthetic) methane;
- underground and surface coalmines in operation, and closed and abandoned underground coal mines.

3. What concrete measures are you proposing to tackle emissions within the EU?

The proposed regulation provides for (i) the highest standard of measurement, reporting and verification of energy sector methane emissions and (ii) immediate reduction of emissions through mandatory leak detection and repair and a ban on venting and flaring.

The proposals on measurement and reporting of methane emissions, which build on the Oil and Gas Methane Partnership (OGMP) 2.0 framework, will help us understand where exactly and how much methane is emitted. This means a shift from estimates to direct measurements, checked by independent verifiers. The urgency to tackle methane emissions is reflected in the proposals on mitigation that aim to deliver reductions soon after the legislation enters into force.

For oil and gas, companies would need to frequently survey their equipment in order to detect leaks, and to repair them immediately. The proposal also bans venting and routine flaring, allowing venting only in exceptional or unavoidable circumstances for reasons of safety. It allows flaring only if re-injection, utilisation on-site or transport of the methane to a market are not technically feasible. Finally, it requires flaring to occur under conditions of complete combustion.

For coal, the proposal envisages a ban on venting and flaring of methane by 2025 from drainage stations and by 2027 from ventilation shafts, ensuring that safety aspects in coal mines are accounted for. The proposal also requires Member States to establish mitigation plans for abandoned coal mines and inactive oil and fossil gas wells.

Methane emissions can continue many years after oil, gas or coal operations have ceased. Member States will be required to establish an inventory of inactive and closed or abandoned assets, for all three sectors. The inventory will serve as a base to prepare and implement mitigation plans. Where such assets do not have a company that is legally responsible for them, and ownership or liability cannot be ascertained, Member States will be the responsible parties.
Methane emissions represent a health and safety threat to citizens. Therefore, the regulation proposes to allow individuals and organisations to submit complaints to the competent authorities of Member States if they suspect methane leaks. This mechanism, together with the power of competent authorities to carry out inspections, provides an opportunity to those directly affected by emissions of methane to bring their case to the authorities and to ensure a follow-up.

4. What impacts will the proposed regulation have on the prices of fossil energy?

Methane has economic value and can in most cases be recovered and used as a source of energy. For this reason, most of the measures proposed under this regulation are cost-effective for companies. Furthermore, given the cost effectiveness of the measures proposed (methane that is captured can be sold on the market), the methane abatement measures included in the proposal, are not expected to significantly impact energy prices.

5. What level of methane emission reductions does the proposal aim to achieve?

The proposal does not contain specific binding target reductions. However, according to the Impact Assessment for the Climate Target Plan 2030, the EU should reduce its methane emissions from energy by 58% by 2030, in comparison to 2020 levels. Today, methane emissions are covered under the targets in the Effort Sharing Regulation.

Specific binding targets first require reliable data on the baseline level and origin of methane emissions, which is not the case today. Thus, the approach taken to achieve further reductions in methane emissions is to set mandatory prescriptive requirements based on best practice methane abatement measures typically used to mitigate methane emissions in the oil, fossil gas and coal sectors, which includes methane leakage detection and repair (LDAR) surveys and limits on venting and flaring. As reflected in the Impact Assessment accompanying this proposal, such measures are projected to deliver additional methane emission reductions (on top of estimated baseline emission reductions of 718 kilotonnes of methane) of 706 kilotonnes of methane in 2030 across the oil, fossil gas and coal sectors. This compares to an estimated combined amount of methane emissions for these three sectors of 1,797 kilotonnes of methane in 2020.

6. How will the proposed regulation incentivise methane reductions globally?

The Commission is already actively engaged in international efforts to tackle methane emissions, and recently launched the Global Methane Pledge in partnership with the United States; over 100 countries have now joined the pledge and committed to reduce their collective methane emissions by at least 30 by 2030. With today's legislative proposals, the Commission adopts a two-step approach to addressing methane emissions from imports of fossil energy to the EU. First, the Commission proposes a number of transparency measures to encourage significant methane emissions abatement globally and in particular in the countries supplying fossil energy to the EU. In the second step, the Commission proposes to evaluate the implementation of those measures to consider strengthening the requirements on importers to abate methane emissions.

A requirement on importers of fossil energy to the EU has been devised to provide Member States with information on measures related to measurement, reporting and mitigation of methane emissions undertaken by exporters. This covers the application of regulatory or voluntary measures to control their methane emissions, including measures such as leak detection and repair surveys or measures to control and restrict venting and flaring of methane.

On the basis of that information, a Methane Transparency Database will be set up, where the data reported by importers and by EU operators will be made available to the public, showing the level of commitment of energy companies and energy producing countries across the globe to reduce their methane emissions. Furthermore, a global methane emitters monitoring tool, based on most innovative satellite technology, will provide information on the magnitude, recurrence and location of high methane-emitting sources.

To effectively tackle emissions of imported fossil fuels along the supply chain to Europe, the Commission will engage in a diplomatic dialogue with our international partners and review the methane regulation by 2025 with a view to introducing more stringent measures on fossil fuels imports once all data is available.

7. How do these measures relate to the Global Methane Pledge?

The Global Methane Pledge commits to a collective global reduction of human-made methane emissions across all sectors by at least 30% by 2030. This is to be achieved via a focus on all feasible reductions in energy and waste, as well as reduction of methane emissions from agriculture through technology and incentives for farmers. Signatories of the Global Methane Pledge also commit to using the best available inventory methodologies to quantify methane emissions and to improve the accuracy, transparency, consistency, comparability, and completeness of greenhouse gas emissions.
reporting. The Commission proposal contains a set of measures imposing obligatory standards of methane emissions measuring, reporting and verification across the EU. It also contains measures on methane emission mitigation such as leak detection, repair, and a ban on venting and routine flaring. These combined measures will significantly contribute to the EU fulfilling its international obligation on methane emission reduction.

8. What is the EU doing to reduce methane emissions in other sectors?

In October 2020, the Commission adopted an EU Methane Strategy, which set out actions to be taken across different sectors, with a particular focus on energy, agriculture and waste. In the EU, 53% of anthropogenic methane emissions come from the agricultural sector, 26% from waste and 19% from energy. Similar trends exist at a global level, with roughly 95% of total anthropogenic emissions covered by these three sectors. As a result, the EU Methane Strategy focuses its attention in these areas.

A number of measures are being put in place in the agricultural sector to promote sustainable livestock management, including circular approaches, support feed additives and promote sustainable and balanced diets, with less red meat. For instance, the Commission is developing an inventory of best practices and available technologies to explore and promote the wider uptake of innovative mitigating actions. To encourage carbon-balance calculations at farm level, by 2022 the Commission will provide a digital carbon navigator template and guidelines on common pathways for the quantitative calculation of greenhouse gas emissions and removals. The Commission will promote the uptake of mitigation technologies through the wider deployment of ‘carbon farming’ in Member States and their Common Agricultural Policy Strategic Plans, as from 2021. In the Horizon Europe strategic plan 2021-2024, the Commission is proposing targeted research on the different factors that effectively lead to greenhouse gases emission reductions, focusing on technology and nature-based solutions as well as on the factors leading to dietary shift. The Commission is also considering bringing part of the cattle rearing within the scope of the Industrial Emission Directive, which may contribute to curbing methane emissions of the sector.

Methane emissions in the waste sector are covered by existing and upcoming planned reviews of environmental legislation. The Landfill Directive requires landfill operators to manage landfill gas, for example by using it to generate energy. In the review of the Landfill Directive foreseen for 2024, the Commission will consider further action to improve the management of landfill gas, minimise its harmful climate effects, and harness any of its potential energy gains. Furthermore, the ongoing review of the Industrial Emissions Directive is also considering the adoption of conclusions on Best Available Techniques for landfilling that would inter alia address methane emissions. Recent changes to EU waste legislation (2018) introduced an obligation to collect biodegradable waste separately by 2024, and set a new target of a maximum 10% landfilling of waste by 2035. As a result of these changes, it is expected that methane emissions from landfills will decrease further. Furthermore, the implementation of the Urban Waste Water Treatment Directive has helped to prevent significant methane emissions due to the collection and treatment of wastewater from inefficient centralised facilities.

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